

REMARKS

The claims have not been amended. Accordingly, claims 1, 3, 4, 6, 7, 9-20, 22, and 23 are currently pending in the application, of which claims 1, 10, 17, and 20 are independent claims. Applicants appreciate the indication that claims 10, 12, 14, 16, 20, and 23 are allowed. Applicants request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. § 102

Claim 17 stands rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,890,674 issued to Beckmann, *et al.* ("Beckmann"). Applicants respectfully traverse this rejection for at least the following reasons.

In order for a rejection under 35 U.S.C. § 102(e) to be proper, a single reference must disclose every claimed feature. To be patentable, a claim need only recite a single novel feature that is not disclosed in the cited reference. Thus, the failure of a cited reference to disclose one or more claimed features renders the 35 U.S.C. § 102(e) rejection improper.

Claim 17 recites, *inter alia*:

wherein the electrical signal is determined based on a variable input *consisting of* the concentration of the fuel and the volume of the sensor film (emphasis added)

Despite the Office Action's assertions to the contrary, Beckmann fails to disclose at least these features.

Simply put, the Office Action unfairly interprets the terms of claim 17, as well as Beckmann's teachings. The Office Action states that "the resistance value is based off of the expansion of Nafion. ...thus, it is interpreted that the only inputs are with respect to the concentration of the methanol and the expansion of Nafion" (page 6). Although the resistance value is based on the expansion of Nafion, the resistance value is a different value from that of

the expansion of Nafion. It is unclear as to why the resistance value would not be considered a variable input simply because it is related to another variable input. If this were true, then only the concentration of methanol would be considered a variable input since both the expansion of Nafion and the resistance value are based on the concentration of methanol. However, the concentration of methanol in a methanol solution, the expansion of Nafion, and the resistance of a conductor fastened to the Nafion are all variable inputs of Beckmann. In fact, Beckmann's disclosed system would not be able to determine the methanol concentration without the resistance of the conductor fastened to the Nafion because without this variable input, there would be no variation in the electrical signal in response to the expansion of the Nafion. Thus, Beckmann's device provides a signal based on a variable input of the concentration of methanol in a methanol solution, the expansion of Nafion, and the resistance of a conductor fastened to the Nafion. Consequently, Beckmann cannot reasonably be relied upon to teach that "the electrical signal is determined based on a variable input consisting of the concentration of the fuel and the volume of the sensor film." Hence, Beckmann fails to disclose or suggest every feature of claim 17.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102 rejection of claim 17. Claims 18 and 19 depend from claim 17 and are allowable at least for this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 17, and all the claims that depend therefrom, are allowable.

Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, 6, 7, 9, 11, 13, 15, and 22 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,303,244 issued to Surampudi, *et al.*

("Surampudi") in view of Beckmann. Applicants respectfully traverse this rejection for at least the following reasons.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966).

In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007). The Federal Circuit requires that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Finally, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest every claimed feature. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Assuming *arguendo* that the prior art elements could be combined, the combined prior art elements do not disclose or suggest every claimed feature.

Claim 1 recites, *inter alia*:

wherein the signal is determined based on a variable input *consisting of* the concentration of the fuel and the volume of the sensor film (emphasis added)

As noted above with regard to claim 17, Beckmann fails to teach or suggest at least this feature. Surampudi fails to cure this deficiency of Beckmann. Therefore, for at least this reason, Surampudi in view of Beckmann fails to teach each and every feature of claim 1.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claim 1. Claims 3, 4, 6, 7, and 9-16 depend from claim 1 and are allowable at least for this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom, are allowable.

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Beckmann as applied to claim 17, in view of Surampudi. Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that claim 17 is allowable over Beckmann and Surampudi fails to cure the deficiencies of Beckmann noted above with regard to claim 17. Hence, claim 19 is allowable at least because it depends from an allowable claim 17.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claim 19. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that claim 19 is allowable.

Allowable Subject Matter

Applicants appreciate the indication that claims 10, 12, 14, 16, 20, and 23 are allowed.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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